REMARKS

Claims 1-5, 7-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US Patent Application Publication No. 2001/0052956). The applicant believes that the Examiner's statements are not accurate and need further clarification.

The Examiner's arguments are analyzed based on MPEP guidelines which are stated in the MPEP Paragraph 2131 as follows:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), MPEP 2131. Further, "the identical invention must be shown in as complete details as is contained in the . . . claim", *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989.)."

The independent claim 1 of the patent application discloses a diffractive grating structure which is preformed without an electric field applied as fully supported by the specification, For example, in lines 22-24 of page 6, and Fig. 6, i.e., it is stated that the viscoelastic layer has a diffractive relief also without an applied electric field. The electric field may be applied to fine-tune the shape of the preformed structure in order to adjust the diffraction properties (page 6 lines 27-29 of the present invention). A potential advantage associated with the use of preformed relief is that the electrodes may also be simple continuous plates, see Figs. 5 - 7 and claim 7, instead of the micro-patterned electrodes of Schrader.

Schrader does not disclose that feature recited in claim 1, namely "preformed structure". On the contrary, Schrader's teaching comprises several indications that the surface of the viscoelastic layer is substantially flat when no electric field is applied:

- Figures 1a and 1b show graphically that the same viscoelastic layer G may have a flat surface (solid line) without the voltage, or a relief surface (dashed line) with the applied electric field. Also Figures 5a-5d show graphically similar situation: the same viscoelastic layer G may have a flat surface (without applying voltage) or a relief surface (with the voltage).

    - Paragraph [0050] discloses that the structure of Figs. 3a and 3b can also be used to pass light without deviating light (implying without electric field applied).

    - Paragraph [0051] discloses that the blaze angle and/or the grating constant can be electrically reconfigured. According to Figs. 3a and 3b, the blaze angle of the same structure can even be completely reversed. A hypothetical implementation of a preformed blazed grating would make complete reversal of the blaze angle more difficult. Also a hypothetical implementation of a preformed grating having a predetermined grating constant would make reconfiguration of the grating constant much more difficult, when compared with a viscoelastic material without a preformed relief. Besides, Schrader does not even hint about the preformed grating structure.

- Paragraph [0060] discloses that when the voltage is switched off, a light beam passes through the viscoelastic material of Fig. 4 without being substantially affected. When the voltage is switched on, the viscoelastic material is deformed into a Fresnel lens.

Thus, Schrader does not teach all claim limitations of the independent claim 1 of the present invention required by the MPEP Rule 2131 quoted above, therefore, claim 1 is novel and is not anticipated by Lee et al. under 35 USC Section 102(e).

Claims 2-14 are dependent claims (directly or indirectly) of independent claim 1. Since independent claim 1 is not anticipated by Schrader under 35 USC Section 102(e), as shown above, dependent claims 2-14 referred to corresponding novel independent claim 1 is also novel, and, therefore, they are not anticipated by Schrader under 35 USC 102(e).

Furthermore, the Office did not present an adequate proof of Schrader's teaching regarding some further unique limitations recited in dependent claims 2-14 of the present invention, which still further reinforces their novelty. Some arguments are presented below.

Regarding claims 3-4, paragraph [0025] does not specifically describe producing desired diffraction properties for a given wavelength of the light wave, contrary to what is alleged by the Office. Schrader mentions accomplishing "different optical functions" without providing specifics recited in claims 3-4 of the present invention.

Regarding claims 10-14, these claims specifically recite embodiments related to enlarging/changing exit pupil of the output optical beam which is fully supported by the specification of the present invention, whereas paragraph [0025] of Schrader does not specifically describe these embodiments at all, contrary to what is alleged by the Office. Schrader mentions accomplishing "different optical functions" without providing specifics recited in claims 10-14 of the present invention. Also, it is submitted that Office interpretation of recitation of "adapted to" in reference to *In re Hutchinson, 69 USPQ 138* is inaccurate. First, the expression referenced in *In re Hutchinson, 69 USPQ 138* is too general (not specific) and recited in a preamble and is broad in a sense that it does not constitute a functional language referred to in 35 U.S.C. 112, sixth paragraph and discussed in MPEP paragraph 2173.05(g).

MPEP Section 2173.05(g) states that "A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of the invention in functional terms. Functional language does not, in and of itself, render a claim improper." It is stated in In re Swinehart, 439 F.2d 210, 169 UPSQ 226 (CCPA 1971) that:

"Concern over use of functional language at "point of novelty" stems largely from fear that applicant will attempt to distinguish over reference by emphasizing property or function not mentioned in reference and thereby assert that his claimed subject matter is novel; such a

concern is irrelevant and misplaced; mere recitation of newly discovered function or property, inherently possessed by things in prior art, does not cause claim drawn to those things to distinguish over prior art; additionally, where Patent Office has reason to believe that functional limitation asserted to be critical for establishing novelty in claimed subject matter may, in fact, be an inherent characteristic of prior art, it possesses authority to require applicant to prove that subject matter shown to be in prior art does not possess characteristic relied on."

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To further clarify the scope of the invention, claim 1 was amended to clarify terminology which is fully supported by the specification of the present invention, e.g., a control module is shown in figures 5-7 as a source providing the control voltage V.

New device claims 15-16 for an exit pupil extender are added which is fully supported by the specification. The new independent device claim 15 is based on lines 14 - 19 on page 12, and on the discussion of Figs 1 and 2 on page 3 line 23 - page 4 line 5 of the present invention. Figs 1 and 2 show that an exit pupil extender (EPE) may comprise a first grating (H1) to couple light into the substrate, a second grating (H3) to couple light out of the substrate, and also an intermediate grating (H2) to redirect light back into the substrate. The passage on page 12 discloses that H1 or H2 may be replaced with the electrically controlled grating.

Furthermore, new method claims 17-18 and means-plus function claims 19-20 of similar scope as corresponding device claims 1-3 (also based on the Figs 5 -7 of the

present invention) are also added and should be allowed as long as claims 1-3 are allowed.

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The rejections and objections of the Official Action dated April 7, 2005, having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested, and the passage of the claims to issue is earnestly solicited.

Respectfully submitted,

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